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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO.  |
|---|-------------|----------------------|---------------------|-------------------|
| 10/750,639  | 12/22/2003  | Kurt R. Kaski        | DAKTRONICS          | 9903              |
| 21270   | 7590        | 11/21/2007           | EXAMINER            |                   |
| HUGH D JAEGER, P.A.<br>P.O. BOX 672<br>WAYZATA, MN 55391-0672 |             |                      |                     | WONG, ALBERT KANG |
| ART UNIT  |             | PAPER NUMBER         |                     |                   |
| 2612  |             |                      |                     |                   |
| MAIL DATE   |             | DELIVERY MODE        |                     |                   |
| 11/21/2007  |             |                      |                     | PAPER             |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|------------------------------|------------------------|---------------------|--|
|                              | 10/750,639             | KASKI, KURT R.      |  |
| Examiner                     | <b>Art Unit</b>        |                     |  |
| Albert K. Wong               | 2612                   |                     |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 14 September 2007.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-48 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) 27 and 29 is/are allowed.

6)  Claim(s) 1-26, 28 and 30-48 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 22 December 2003 is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.  
5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_.

1. This Office action is in response to the amendment filed September 14, 2007. Claims 1-48 are pending. The specification and claims 19, 27, 29, and 31 have been amended as requested. The prior rejections have been withdrawn in view of the amendment. Further, the rejections have been withdrawn because the rejections were mistakenly based on Kaski which does not constitute prior art since the inventor is the same as the instant invention and the filing date of the instant application predates the issue date of the Patent.

2. Claims 1-7, 9-14, 16-26, and 28 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Philipp (2004/0104826). In evaluating the claims it is noted that the claims recite a particular use for a capacitive sensor. There are no structural elements that limit the sensor to the claimed desired use. While a method claim may recite steps that pertain to a novel use for an existing device, recitations pertaining to use in a method claim is given no patentable weight since the result would be to issue patents on existing devices.

Regarding claim 1, the claimed sensor mat is shown generally as item 14; the claimed sensor circuit is shown as item 46; and the claimed power supply is shown as Vr. Thus, all of the limitations are shown. Alternatively, while Philipp does not recite the capacitive sensor as a mat, it would have been obvious for the sensor to be of any size and configuration since the purpose is to detect the touch of a human and a mat is used for the purpose of human touch.

Regarding claims 2-5, these claims merely recite use limitations. See discussion above.

Regarding claims 6-7, the capacitive sensor in Philipp has some thickness thus there will be a portion oriented vertically and horizontally with respect to each other.

Regarding claim 9, a sensor electrode is inherent in a capacitive sensor.

Regarding claim 10, it is conventional for a capacitive sensor to have multiple layers since the top layer is typically a charge layer and the second layer is a ground plane. It would have been obvious to use conventional designs.

Regarding claims 11-14, it is conventional for capacitive sensors to have a laminate structure that is bonded by an adhesive. The laminate structure includes an insulating layer to separate the electrodes and the adhesive seals the layers from contaminants. It would have been obvious to use conventional structures for their known advantages.

Regarding claim 16, it would have been obvious that the external surface is not limited to a planar shape. A slightly curved surface would work equally well.

Regarding claim 17, this limitation has been addressed above.

Regarding claim 18, Philipp teaches a charge-transfer integrated circuit.

Regarding claim 19, it would have been obvious to use any conventionally known circuit with the desired functionality.

Regarding claim 20-21, the claimed limitations are conventional within a capacitive touch sensor and thus considered obvious. The sampling capacitor is shown as C'.

Regarding claim 22, it would have been obvious to use a sampling capacitor with the proper sensitivity, otherwise the system would not work.

Regarding claim 23-26, the type and amount of power is considered an obvious design choice since any suitable power supply may be used to power the system.

Regarding claim 28, the use of a battery as a backup power source is well known in the electronic arts, and thus, considered obvious.

3. Claims 8, 15 and 30-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Philipp as applied to claims 1 and 13 above, and further in view of Coble (3,916,214).

Regarding claims 8 and 15, Philipp does not show a non-slip surface. Philipp suggests in paragraph 8 that a capacitive sensor may be used to replace a mechanical switch. Coble teaches a mat for a pool with a mechanical switch and further teaches in col. 3, lines 35-40 that the mat may have a non-slip surface. It would have been obvious to substitute a capacitive switch for the mechanical switch since a capacitive switch is more resistant to contamination. Further, it would have been obvious to include a non-slip surface as suggested by Coble when such a sensor is used as a pool mat.

Regarding claim 30, Philipp does not teach a plurality of sensor systems connected to a control system. Coble teaches such a system. It would have been obvious to substitute a mechanical sensor for a capacitive sensor as suggested by Philipp.

Regarding claim 31, as discussed above Coble teaches a plurality of mats and a timing system. Philipp teaches a capacitive sensor and the motivation for substituting a capacitive sensor for a mechanical sensor.

Regarding claim 32, a capacitive sensor is pressure insensitive.

Regarding claims 33-42, it is noted that the mention of capacitance is merely in the preamble and this generally given no patentable weight. However, for the purpose of examination, it will be shown that even if the sensing mat is capacitive, the claims can still be rejected.

Regarding claim 33, Coble teaches the claimed sensing mat, sensor circuit, cable, touchpad, and timer. These are conventional items for a pool timer/race monitor. The particular

cable connection is considered an obvious design choice since the electronic elements must be in communication. Philipp teaches that a mechanical sensor maybe replaced with a capacitive sensor.

Regarding claims 34-41, these limitations are considered conventional in a race monitoring system for a pool.

Regarding claims 42-48, these claims recite the method of using the apparatus. Since the apparatus has been shown to be obvious, the method of using the apparatus in its designed manner would also have been obvious.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant should not consider only the applied art to be of relevance. Applicant should consider the numerous examples of capacitive sensors and monitors previously cited since any sensor and monitor may be substituted for the equivalent items found in the applied references.

5. Claims 27 and 29 are allowed.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert K. Wong whose telephone number is 571-272-3057. The examiner can normally be reached on M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian A. Zimmerman can be reached on 571-272-3059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Albert K. Wong  
November 16, 2007



**ALBERT K. WONG**  
**PRIMARY EXAMINER**